

REMARKS

The Official Action dated January 3, 2005 has been received and its contents carefully noted. In view thereof, claims 2-5 have been canceled and claims 1, 6 and 7 have been amended in order to better define that which Applicants regard as the invention. Accordingly, claims 1 and 6-10 are presently pending in the instant application with claims 8-10 being withdrawn from further consideration by the Examiner.

With reference now to the Official Action and particularly page 2 thereof, Applicants hereby confirm the election of Group I, claims 1-7 set forth in Applicants' response filed October 5, 2004. Accordingly, the withdrawal of claims 8-10 from consideration by the Examiner is hereby acknowledged.

With reference to paragraph 4 of the Office Action, the drawings have been objected to as failing to comply with 37 C.F.R. §1.84(p)(5) because they include reference numeral 6 which is not mentioned in the specification. In this regard, filed concurrently herewith is a Submission of Substitute Formal Drawings wherein reference numeral 6 has been removed from Fig. 2. Accordingly, it is respectfully submitted that Applicants' several figures are now in proper formal condition for allowance.

With reference to paragraphs 6 and 7 of the Office Action, the disclosure has been objected to as including minor informalities and the Examiner has requested that the specification be checked to the extent necessary to determine the presence of possible minor errors. As can be seen from the foregoing amendments, the specification has been amended in order to cure the informality noted by the Examiner as well as others. Accordingly, it is respectfully submitted that Applicants' specification is now in proper formal condition for allowance.

With reference now to paragraphs 8 and 9 of the Office Action, claim 7 has been rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly

point out and distinctly claim the subject matter which the Applicants regard as the invention. In this regard, as can be seen from the foregoing amendments, claim 7 has been amended in order to overcome the indefiniteness noted by the Examiner. Accordingly, it is respectfully submitted that independent claim 7 is now in proper formal condition for allowance.

Turning now to paragraph 11 of the Office Action, claims 1-7 have been rejected under 35 U.S.C. §102(b) as being anticipated by European Patent Publication No. 896,134. This rejection is respectfully traversed in that the European Patent Publication fails to disclose or remotely suggest that which is presently set forth by Applicants' claimed invention.

As can be seen from the foregoing amendments, independent claim 1 has been amended to recite a catalyst for exhaust gas purification comprising a NO_x absorbent material which absorbs NO_x in an exhaust gas in an environment of excess oxygen whose exhaust gas oxygen concentration level is high whereas when the exhaust gas oxygen concentration level becomes lower in a given temperature range, the NO_x absorbent material releases the absorbed NO_x, a precious metal and a Ce-Pr mixed oxide which releases a maximum amount of oxygen in the given temperature range wherein the Ce-Pr mixed oxide is supported on a substrate and is presented in amounts ranging from 15 to 300g per 1 litre of the substrate. Similarly, independent claim 7 recites a catalyst for exhaust gas purification comprising a NO_x absorbent material formed of at least one Ba, K, Sr, and Mg, a precious metal, and a Ce-Pr mixed oxide. The catalyst being placed in an exhaust gas of which an oxygen concentration level becomes relatively high in a first period and becomes relatively low in a second period, the first period and the second period being alternately repeated, wherein the Ce-Pr mixed oxide is supported on a substrate and is present in amounts from ranging from 15 to 300g per 1 litre of said substrate. Accordingly, each of these claims recite features which are neither disclosed in nor remotely suggested by the European Publication.

Particularly, European Patent Publication discloses the utilization of Ce-Pr composite oxide in place of ceria in the catalyst containing NO_x absorbing material, a noble metal and ceria as noted from page 5, paragraph 19. However, this replacement of ceria with Ce-Pr composite oxide is intended for improvement of heat resistance of the catalyst, and is simply derived from the fact the Ce-Pr composite oxide, when exposed to heat has a higher ability to absorb oxygen than ceria. More specifically, it is noted that European Patent Publication does not mention any relationship between the ability of the Ce-Pr composite oxide to absorb and release oxygen and the temperature. Moreover, this reference fails to disclose or suggest how the Ce-Pr composite oxide acts on NO_x purification during air/fuel ratio lean operation.

Accordingly, in view of the foregoing it is respectfully submitted that even a person skilled in the art cannot and would not derive from the reference, the present invention which sets the support amount of the Ce-Pr composite oxide at 15 to 300g per liter of a substrate.

It is further noted that the reference mentions, at page 9, paragraph 43, that ceria was born 78g per liter of the honeycomb bed. It is impossible, however, to derive the support amount of the Ce-Pr composite oxide in the present invention from that mentioned for the ceria amount in the European Publication because the Ce-Pr composite oxide and the ceria are not the same as one another. It is a well known fact among those skilled in the art that it is difficult to predict the ability of the catalyst when the types of materials to be added in the catalyst are changed. Accordingly, it is also difficult for one of ordinary skill in the art to predict the effect of adding the Ce-Pr composite oxide in place of the ceria. Unless the effect is known to set the amount of the Ce-Pr composite oxide would certainly not be within the cognizance of one of ordinary skill in the art based on the teachings of the European Publication.

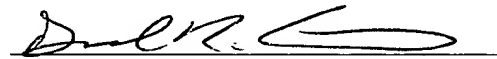
The European Publication further discloses in paragraph 42 that "the nitrogen oxide absorbing material layer 22 contained platinum (pt) and barium (ba) carried by alumina and

ceria and a hydrate alumina binder. However, this description does not state that barium is carried by the ceria. Furthermore, paragraph 46 of the reference discloses the solutions containing platinum and barium, respectively, passed through ceria and zeolite because of the small specific areas of the ceria and zeolite particles and reaches alumina, so that the platinum and barium are carried by the alumina.” Accordingly, as noted hereinabove, the European Patent Publication fails to disclose that ceria supports the barium as a NO_x absorbing material. In addition, there is no mention made regarding the Ce-Pr composite oxide that is used to support the barium and clearly fails to disclose or suggest the particular range of Ce-Pr as recited in each of independent claims 1 and 7. Accordingly, it is respectfully submitted that Applicants’ claimed invention as set forth in independent claims 1 and 7 as well as dependent claim 6 clearly distinguish over the prior art of record and are in proper condition for allowance.

Therefore, in view of the foregoing it is respectfully requested that the objections and rejections of record be reconsidered and withdrawn by the Examiner, that claims 1, 6 and 7 be allowed and that the application be passed to issue.

Should the Examiner believe a conference would be of benefit in expediting the prosecution of the instant application, he is hereby invited to telephone counsel to arrange such a conference.

Respectfully submitted,



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